

REMARKS/ARGUMENTS

Claims 1-3, 6-10, 12-18, 20, and 25 are pending, claims 3, 10, 12, 18 and 20 having been withdrawn from consideration. By this Amendment, claims 21, 23, and 24 are cancelled without prejudice or disclaimer, and claims 1-3 and 13-15 are amended. Support for the amendments to claims 1-3 and 13-15 and new claim can be found, for example, in the present specification at page 3, lines 28 to 30, and page 6, line 2 to page 7, line 2, in FIG. 1, and in previously presented claims 1-3 and 13-15. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

Personal Interview

Applicants appreciate the courtesies extended to Applicants' representative by Examiner Padgett during the July 21, 2011 Personal Interview. Applicants' separate record of the substance of the interview is incorporated in the following remarks.

Withdrawn Claims

For the reasons set forth below, Applicants submit that the species presently subject to examination are allowable. Rejoinder and examination of the non-elected species are, thus, appropriate.

Rejection Under 35 U.S.C. §112, First Paragraph

A. Enablement

The Office Action rejects claims 1, 2, 6-9, 13-17, 21, and 23-25 under the enablement requirement of 35 U.S.C. §112, first paragraph. By this Amendment, claims 21, 23, and 24

are cancelled, rendering the rejection moot as to those claims. As to the remaining claims, Applicants respectfully traverse the rejection.

While Applicants do not concede the propriety of the rejection and reserve the right to pursue broader subject matter at a later time, by this Amendment, claims 1 and 13 are amended to obviate the rejection.

In particular, claims 1 and 13 are amended to require that: "the continuous layer of the catalytic material is formed by making a sequence of deposits of the catalytic material on to the surface of the substrate to form continuous sublayers of the catalytic material separated by waiting phases under a vacuum or in a controlled atmosphere; and deposits of the catalytic material are made by exposing the substrate to a source of evaporated catalytic material and waiting phases are carried out by shielding the substrate from the source of evaporated catalytic material." The foregoing requirements are consistent with the amendments proposed at page 6 of the Office Action and discussed during the interview to render the claims commensurate in scope with the enablement provided by the specification is filed.

For the foregoing reasons, claims 1, 2, 6-9, 13-17, and 25 are fully enabled by the specification as filed. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Written Description

The Office Action rejects claims 1, 2, 6-9, 13-17, 21, and 23-25 under the written description requirement of 35 U.S.C. §112, first paragraph. By this Amendment, claims 21, 23, and 24 are cancelled, rendering the rejection moot as to those claims. As to the remaining claims, Applicants respectfully traverse the rejection.

While Applicants do not concede the propriety of the rejection and reserve the right to pursue broader subject matter at a later time, by this Amendment, claims 1 and 13 are

amended to obviate the rejection. As indicated in the Office Action and during the interview, the modified language of claims 1 and 13 is sufficient such that the claims are supported by the specification as filed. *See* Office Action, page 7.

For the foregoing reasons, claims 1, 2, 6-9, 13-17, and 25 are fully supported by the specification as filed. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Rejection Under 35 U.S.C. §112, Second Paragraph

The Office Action rejects claims 21 and 24 as indefinite under 35 U.S.C. §112, second paragraph. While Applicants do not concede the propriety of the rejection and reserve the right to pursue broader subject matter at a later time, by this Amendment, claims 21 and 24 are cancelled, rendering the rejection moot.

Rejection Under 35 U.S.C. §102/§103

The Office Action rejects claims 1, 2, 6, 8, 9, 13, 14, 16, 17, 21, 23, and 24 under 35 U.S.C. §102(b), or in the alternative under 35 U.S.C. §103(a), over WO 03/027011 to Lee ("Ida Lee"). By this Amendment, claims 21, 23, and 24 are cancelled, rendering the rejection moot as to those claims. As to the remaining claims, Applicants respectfully traverse the rejection.

The Office Action indicates that the teachings of Ida Lee would be overcome by modifying the claims to specify that the layer of catalytic material is continuous. *See* Office Action, page 10. Claims 1 and 13 have been so amended.

As explained, claims 1 and 13 are not anticipated by and would not have been rendered obvious by Ida Lee. Claims 2, 6, 8, 9, 14, 16, and 17 depend variously from claims

1 and 13 and, thus, also would not have been rendered obvious by Ida Lee. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Rejection Under 35 U.S.C. §103

The Office Action rejects claim 25 under 35 U.S.C. §103(a) over Ida Lee in view of EP 1 061 041 to Lee et al. ("Lee"). By this Amendment, claims 21, 23, and 24 are cancelled, rendering the rejection moot as to those claims. As to the remaining claims, Applicants respectfully traverse the rejection.

Ida Lee does not disclose or suggest each and every feature of claim 13 for at least the reasons discussed above. Lee does not remedy the deficiencies of Ida Lee. Claim 13 requires that "deposits of the catalytic material are made by exposing the substrate to a source of evaporated catalytic material and waiting phases are carried out by shielding the substrate from the source of evaporated catalytic material." Neither Ida Lee nor Lee remotely discloses or suggests a method in which a continuous layer of a catalytic material is formed as specified in the above-quoted language.

As explained, claim 13 would not have been rendered obvious by Ida Lee and Lee. Claim 25 depends from claim 13 and, thus, also would not have been rendered obvious by Ida Lee and Lee. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Rejection Under 35 U.S.C. §103

The Office Action rejects claims 7 and 15 under 35 U.S.C. §103(a) over Ida Lee in view of U.S. Patent No. 6,538,367 to Choi et al. ("Choi"). By this Amendment, claims 21, 23, and 24 are cancelled, rendering the rejection moot as to those claims. As to the remaining claims, Applicants respectfully traverse the rejection.

Ida Lee does not disclose or suggest each and every feature of claims 1 and 13 for at least the reasons discussed above. Choi does not remedy the deficiencies of Ida Lee. Claims 1 and 13 require that "the continuous layer of the catalytic material is formed by making a sequence of deposits of the catalytic material on to the surface of the substrate to form continuous sublayers of the catalytic material separated by waiting phases under a vacuum or in a controlled atmosphere" and "deposits of the catalytic material are made by exposing the substrate to a source of evaporated catalytic material and waiting phases are carried out by shielding the substrate from the source of evaporated catalytic material." Neither Ida Lee nor Choi remotely discloses or suggests a method in which a continuous layer of a catalytic material is formed as specified in the above-quoted language.

As explained, claims 1 and 13 would not have been rendered obvious by Ida Lee and Choi. Claims 7 and 15 depend from claims 1 and 13, respectively, and, thus, also would not have been rendered obvious by Ida Lee and Choi. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Rejection Under 35 U.S.C. §102/§103

The Office Action rejects claims 1, 2, 6, 8, and 9 under 35 U.S.C. §102(b), or in the alternative under 35 U.S.C. §103(a), over Gao, et al., "Plasma breaking of thin films into nano-sized catalysts for carbon nanotube synthesis," Materials Science and Engineering A352 (2003) 308-313 ("Gao"). Applicants respectfully traverse the rejection.

Claims 1 and 13 require that "the continuous layer of the catalytic material is formed by making a sequence of deposits of the catalytic material on to the surface of the substrate to form continuous sublayers of the catalytic material separated by waiting phases under a vacuum or in a controlled atmosphere" and "deposits of the catalytic material are made by exposing the substrate to a source of evaporated catalytic material and waiting phases are

carried out by shielding the substrate from the source of evaporated catalytic material." Gao does not remotely disclose or suggest a method in which a continuous layer of a catalytic material is formed as specified in the above-quoted language.

As explained, claim is not anticipated by and would not have been rendered obvious by Gao. Claims 2, 6, 8, and 9 depend from claim 1 and, thus, also would not have been rendered obvious by Gao. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Double Patenting

A. 284 Application

The Office Action provisionally rejects claims 1, 2, 6-9, 13-17, 21, and 23-25 under the judicially created doctrine of obviousness-type double patenting over claims 14-30 of U.S. Patent Application No. 10/546,284 in view of Ida Lee or Gao. By this Amendment, claims 21, 23, and 24 are cancelled, rendering the rejection moot as to those claims. As to the remaining claims, Applicants respectfully traverse the rejection.

Claims 1 and 13 require that "the continuous layer of the catalytic material is formed by making a sequence of deposits of the catalytic material on to the surface of the substrate to form continuous sublayers of the catalytic material separated by waiting phases under a vacuum or in a controlled atmosphere" and "deposits of the catalytic material are made by exposing the substrate to a source of evaporated catalytic material and waiting phases are carried out by shielding the substrate from the source of evaporated catalytic material." Neither the claims of the 284 application, Lee 011 nor Gao recite or suggest a method in which a continuous layer of a catalytic material is formed as specified in the above-quoted language.

As explained, the claims of the 284 application, Ida Lee and Gao do not render claims 1 and 13 obvious. Claims 2, 6-9, 14-17, and 25 depend variously from claims 1 and 13 and, thus, also are not rendered obvious by the claims of the 284 application, Ida Lee and Gao. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. 547 Patent

The Office Action rejects claims 1, 2, 6, 8, 9, 13, 14, 16, 17, 21, and 23-25 under the judicially created doctrine of obviousness-type double patenting over claims 1-21 of U.S. Patent No. 7,544,547 in view of Gao and/or Lee. By this Amendment, claims 21, 23, and 24 are cancelled, rendering the rejection moot as to those claims. As to the remaining claims, Applicants respectfully traverse the rejection.

Claims 1 and 13 require that "the continuous layer of the catalytic material is formed by making a sequence of deposits of the catalytic material on to the surface of the substrate to form continuous sublayers of the catalytic material separated by waiting phases under a vacuum or in a controlled atmosphere" and "deposits of the catalytic material are made by exposing the substrate to a source of evaporated catalytic material and waiting phases are carried out by shielding the substrate from the source of evaporated catalytic material." Neither the claims of the 547 patent, Lee 011 nor Gao recite or suggest a method in which a continuous layer of a catalytic material is formed as specified in the above-quoted language.

As explained, the claims of the 547 patent, Gao, and Lee do not render claims 1 and 13 obvious. Claims 2, 6, 8, 9, 14, 16, 17, and 25 depend variously from claims 1 and 13 and, thus, also are not rendered obvious by the claims of the 547 patent, Gao, and Lee. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

C. 238 Application

The Office Action provisionally rejects claims 1, 2, 6-9, 13-17, 21, and 23-25 under the judicially created doctrine of obviousness-type double patenting over claims 25-42 of U.S. Patent Application No. 11/915,238 in view of Ida Lee, Gao and/or Lee. By this Amendment, claims 21, 23, and 24 are cancelled, rendering the rejection moot as to those claims. As to the remaining claims, Applicants respectfully traverse the rejection.

Claims 1 and 13 require that "the continuous layer of the catalytic material is formed by making a sequence of deposits of the catalytic material on to the surface of the substrate to form continuous sublayers of the catalytic material separated by waiting phases under a vacuum or in a controlled atmosphere" and "deposits of the catalytic material are made by exposing the substrate to a source of evaporated catalytic material and waiting phases are carried out by shielding the substrate from the source of evaporated catalytic material." Neither the claims of the 238 application, Lee 011 nor Gao recite or suggest a method in which a continuous layer of a catalytic material is formed as specified in the above-quoted language.

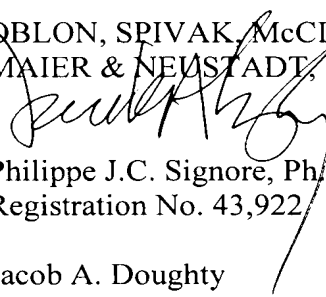
As explained, the claims of the 238 application, Lee 011, Gao and Lee 041 do not render claims 1 and 13 obvious. Claims 2, 6-9, 14-17, and 25 depend variously from claims 1 and 13 and, thus, also are not rendered obvious by the claims of the 238 application, Lee 011, Gao and Lee 041. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Conclusion

For the foregoing reasons, Applicants submit that claims 1-3, 6-10, 12-18, 20, and 25 are in condition for allowance. Prompt reconsideration and allowance are respectfully requested.

Respectfully submitted,

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